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ABSTRACT

Surveys used for program and institutional evaluation, such as self-studies conducted for accreditation review, are discussed. Frequently, these evaluations take the form of faculty surveys and student surveys. This paper explores the following general considerations associated with mail surveys and other surveys: avoidance of response bias; reduction of non-response; reliability and validity in survey research; and the effects of different response models. Practical suggestions are offered, in non-technical language, for implementing survey research methods and developing more useful questionnaire items. The advantages and disadvantages of open versus closed question forms are described. Open questions allow respondents to state opinions in their own words and may reveal important issues that the evaluator may not have anticipated. However, the results of open questions are more difficult to analyze than are those of closed questions, which generally produce more reliable data that accommodate statistical analysis and allow the responses of individuals and groups to be quantified and compared. It is concluded that the question format not only determines the quality of information or opinion elicited, but also affects data analysis and interpretation. (TJH)

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Designing Questionnaire Items: Lessons Learned from Faculty and Student Surveys

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ABSTRACT

Designing Questionnaire Items: Lessons Learned
from Faculty and Student Surveys

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Educational decisions in higher education are most often based on some form of evaluation, for example, the self-study conducted for accreditation review is an extensive example. Frequently, these evaluations take the form of faculty and student surveys. This paper explores general considerations such as: 1) how to avoid response bias, 2) how to reduce nonresponse, 3) reliability and validity in survey research, 4) the effects of different response modes, and other general considerations.

The advantages and disadvantages of open vs. closed question forms are discussed in some detail. "Open" questions allow respondents to state opinions in their own words, and may reveal important issues which the evaluator did not anticipate. Open questions provide respondents with the opportunity to express their thoughts and opinions, but results are more difficult to analyze.

On the other hand, "closed" questions generally produce more reliable data which can be statistically analyzed. Responses of individuals and groups can be quantified and compared. Thus, question form not only determines the quality of information or opinion elicited, but also affects data analysis and interpretation.

Designing Questionnaire Items: Lessons Learned from Faculty and Student Surveys

Surveys can provide a useful source of information about the quality of higher education which may not attainable by other research methods. However, survey research has its perils and pitfalls. This paper discusses survey research for program and institutional evaluation such as the accreditation review process and outcome assessment. Practical suggesting are offered, in non-technical language, for implementing survey research methods and developing more useful questionnaire items. For the sake of simplicity, the term "survey" refers to a mailed questionnaire, however, similar recommendations apply as well to phone and in-person interviews.

General Considerations

Bias in Response

Assuming that sampling techniques are not a source of bias (Blalock, 1979), bias can still be a problem in campus surveys because of certain human or social tendencies, especially if faculty and students believe (erroneously) that their answers can be traced back to them (e.g., "my instructor will recognize my handwriting"). Three major sources of bias are acquiescence, social desirability, and atypical responses (Fowler, 1988).

Acquiescence is the human tendency to agree or respond "yes" or "true" to questions, regardless of their content; individuals appear to vary in the extent of this tendency. One way to avoid this response bias is to write half of the items so that indicating agreement is actually a negative evaluation:

"Students are prepared for upper-division classes." (positive)

"Faculty support from administration should be improved." (negative)

Social desirability bias occurs when individuals respond positively to items which are congruent with socially acceptable attitudes or behaviors. However, this source of bias is probably not a deliberate attempt to "fake" the survey instrument. For example, faculty members may be reluctant to admit they are experiencing any problems or that academic achievement of their students is not excellent. They may feel that such admittance reflects poorly on them as individuals and their academic department or the institution as a whole. Similarly, students may experience a reluctance to admit they are not satisfied with programs that represent a considerable investment of their time, energy, and resources or that they are not "good" students, which may create cognitive dissonance. Also, they may not wish to make an instructor or the school "look bad," for various reasons, even though negative information will be used to improve and upgrade programs.

In addition, individuals tend to underreport conditions that carry a social stigma, such as mental illness, physical or learning disabilities, alcoholism, drug abuse, or embarrassing behavior. If sensitive information is being asked in a survey, be aware that even seemingly innocent questions may embarrass someone. Consider whether such questions are really necessary.

Atypical response occur when individuals respond atypically or unusually, or make choices others are unlikely to make, regardless of item content. Faculty and students who believe that the survey is overly intrusive or even pointless may express their discomfort or annoyance this way. While there is not much point in debating whether such individuals are "abnormal" or not, one solution is to set aside atypical cases, that is, those with incongruent responses, and analyze them separately. Many of these response biases can be avoided by ensuring faculty and student respondents that their answers will be confidential or anonymous. Explain the purpose and objectives of the survey

research and how the information acquired will be used to improve instructional programs and services, rather than used in any punitive way. Trust between those conducting the research and the sample of respondents is essential.

Nonresponse

Nonresponse can refer to particular items which some individuals choose not to answer. However, when faculty and students selected for your sample refuse to respond at all there is the much greater problem of sampling bias. Common reasons for the nonresponse of faculty and students include: the questionnaire did not reach them because they were away on vacation or changed their address; they refused or failed to supply information; they were unable to supply information. Bias occure when response rate is low because only those who are interested in the issues return the survey. These individuals differ in some systematic way from those who do not return the survey.

Ways to Reduce Nonresponse

Questionnaires apparently work best with individuals who are highly literate, interested in research, and motivated to return the form. (Fowler, 1988) Thus, the self-administered form should be well suited for faculty and students. Almost anything that makes a mailed questionnaire look professional and personalized, such as an attractive cover, letterhead, will increase response rates (Fowler, 1988). The instrument should be easy to complete and not overly long; the directions should be easy and clear; the form should be attractive, easy to read, and uncluttered. Follow-up reminders, either by postcard or phone are also important ways to reduce nonresponse.

Reliability and Validity

A reliable measure is one that produces consistent results which are not influenced by extraneous variables. To the extent that questionnaire items are clearly written and unambiguous, that is, individuals reading them will interpret them the same way, a survey will be reliable. Internal consistency, another form of reliability, refers to items on the same scale (which are assumed to measure the same construct), being highly intercorrelated.

Validity of a questionnaire can be more difficult to achieve and determine. People do not always give valid information on a survey for several reasons: they do not know the information; they cannot recall it; they don't understand the question; or they feel uncomfortable answering the question in the survey context. Recently, the cognitive aspects of designing and testing questionnaires, such as the validity of self-report data, have been explored in laboratory studies (e.g., Jabine, Straf, Tanur, & Tourangeau, 1984).

Another way to assess validity is to compare questionnaire responses with a different measure, such as records or test data, measuring a similar concept. However, since these correlations usually tend to run low, in the neighborhood of .3[5] (Fowler, 1988), the usefulness of this approach to validity is limited.

"Agree/Disagree" and "Don't Know" Responses

"Agree/Disagree" items are commonly used in surveys. They seem to be simple, but should be used with care. Statements should have only one dimension, and they not be double-barreled as in this example:

"Completing my MBA will improve my personal skills and advance my career."

the end of continuum, rather than middle. Does disagreement with the statement below indicate that an individual person believes that the alumni association is doing an excellent job or a poor one?

"The alumni association is doing a fair job."

"Don't Know" answers can have different meanings. In any case, they are often difficult to interpret and like "missing values," can complicate data analysis. "Don't know" is not the same as a neutral response category on a scale and requires different coding procedures. If the number of "don't know's" is a large percentage of item responses, items may be poorly written.

In general, if the survey topic or particular items are about feelings or experiences, "don't know" may indicate an unwillingness to respond, not uncommon with individuals who may find it threatening to appear critical of themselves or an instructor. For example, "don't know" might be a frequent response to intrusive statements such as the following:

"I find it difficult to keep up with course assignments because of my study skills."

"Problems in my personal life have prevented me from attending class."

A better approach to item construction might be:

"I would be interested in taking a study skills workshop." or

"Time conflicts sometimes make it difficult to attend class."

On the other hand, students and faculty may simply be unfamiliar with the topic. Certain questions can be screened by a preceding question to see whether respondents are familiar with subject and should go any further. In that way, those responding will at least know something about the subject. For example:

"Do you use the library's on-line reference services?" (yes/no)

(if yes) "How would you rate the quality of this service?"

Open vs. Closed Questions

Open questions have certain advantages; they describe the "real" views of faculty and staff and permit unanticipated answers. Often, people prefer to answer questions concerning issues of importance to them in their own words. The open-ended approach is also more appropriate if the list of possible answers to a question is very long.

On the other hand, closed questions are more satisfactory because the task of responding to a given item is more reliable and they constrain the number of possible answers and eliminate rare answers or those not appropriate for the analysis. Closed questions are also better for constructing rating scales which yield ordinal data. Thus, data analysis and interpretation can be far less time-consuming and easier to automate.

In our surveys of faculty and students, we found that the use of a closed questions tended to produce generally positive mean responses, whereas faculty and students were more likely to use the open format to express their frustrations or grievances in negative terms. (Others did express positive feelings or omitted the open-ended questions.) Since the use of open vs. closed questions may influence the direction of expressed attitudes, perhaps both approaches should be used as a check to compare group trends with the more extreme views of particular individuals.

Pretesting

Every questionnaire should be pretested, no matter how experienced the researcher. Once questionnaires are printed and data collection starts, changes can be expensive and difficult. If wording is changed, already

completed questionnaires have cannot be included in the analysis. Pretest a self-administered survey by having a small group complete the instrument. The researcher should then lead a group discussion and find out if the instructions were clear, whether any questions were confusing or difficult, and if there were any format or design problems.

Ethical Issues

The essential ethical principals in survey research in the academic setting or elsewhere are the following:

1) there should be no adverse effects to respondents;
2) data must be kept confidential;
3) data analysis and utilization should be appropriate.

Student and faculty respondents should be informed of the department or organization conducting the research; the investigators' names; the purpose of the survey research project; and how confidentiality will be protected. Student and faculty should be told that their cooperation is voluntary and that refusal to participate will not have any adverse effect on them, and that they can skip any questions they choose not to answer.

Constructing Items for Accreditation Review

City University, a private school serving adult students, is located in Bellevue, WA. In July, 1989, the author constructed a set of surveys based on questions in the Northwest Association of Schools and Colleges Accreditation Handbook, (1988 Edition), as part of the re-accreditation process. In the case of faculty rating proposed means of improving faculty effectiveness, written comments from earlier surveys which formed the basis of response categories,

The actual survey items were written using wording similar to the Handbook questions, and were reviewed by faculty other than the researcher. The surveys were sent to a random sample of 700 students, 475 faculty, and 700 alumni and former students. Response rates for the three samples were ranged from .30 to .40.

The items on the following pages are actual examples to illustrate how broad topics can be converted into objective (closed) response items. Included are faculty ratings of ways to improve faculty effectiveness; ratings of the physical plant, classrooms, and study or lounge areas; and alumni ratings of programs in terms of professional advancement. These items are meant to suggest ways gathering objective data on topics of broad concern. Clearly, each institution must construct items that are suitable to its philosophy and unique characteristics.

Handbook Question:

"Comment on changes which might be made in departmental policies and procedures to improve faculty effectiveness."

Survey Item (for Faculty):

What do you think is the **relative importance** of these items for improving faculty effectiveness? (1=high, 11=low)

RESULTS:

1 Ensuring that entering students meet minimum competencies in English and math; prerequisites for advanced classes.

2 An increase in faculty salary.

3 A faculty library of teaching and instructional materials, such as slides, overhead displays, other visual aids.

4 An ongoing review of courses, goals, and objectives with full faculty participation.

5 Funding for professional faculty development, such as training, membership dues, conference attendance and presentation.

6 Better communication between administration and faculty on short- and long-range goals for City University.

7 Guest speakers at faculty meetings addressing teaching methods and academic subjects for faculty development.

8 Increased clerical and secretarial support for faculty.

9 Peer evaluation of faculty effectiveness, as well as the SIR forms.

10 Fostering "team spirit" among faculty members to reduce turnover rate by organizing various group projects and events for faculty.

11 Greater emphasis on computer applications for classes. (n=112)

Handbook Questions:

"Evaluate how well the physical plant serves the needs of students and staff."

"Carefully review maintenance and housekeeping standards and attractiveness of the grounds. What improvements are needed, if any?"

Survey Item (Faculty, Students, Alumni and Former Students):

C-2. How do you feel about the classrooms in which you teach, in terms of lighting, spaciousness, and comfort for both instructor and student?

Very Satisfied (1)	Somewhat Satisfied (2)	Neither Satisfied nor Dissatisfied (3)	Somewhat Dissatisfied (4)	Very Dissatisfied (5)
20.5%	45.4%	8.1%	13.9%	2.1%

(n=491)

C-3. How well do the study, lounge, and rest areas in the facility where you teach meet the needs of faculty and students?

Very Adequately (1)	Somewhat Adequately (2)	Not Applicable (3)	Somewhat Inadequately (4)	Very Inadequately (5)
15.5%	37.6%	13.3%	22.8%	11.5%

(n=490)

C-4. How would you rate the housekeeping, maintenance, and attractiveness of the facility where you teach?

Very Well-Kept	Somewhat Well-Kept	Neither Well-Kept nor Poorly Kept	Somewhat Poorly Kept	Very Poorly Kept
(1)	(2)	(3)	(4)	(5)
28.6%	16.9%	18.1%	12.4%	4.1%

Handbook Question:

"What has been learned about the educational effectiveness of the various instructional programs from former students who left before completing their programs of study?"

Survey Item (For Alumni and Former Students):

E-4. How would you rate the instructional programs at City University in preparing you for professional work and career advancement?

Very Effective	Somewhat Effective	Neither Effective nor Ineffective	Somewhat Ineffective	Very Ineffective
(1)	(2)	(3)	(4)	(5)
35.5%	59.1%	4.5%	.9%	0.0%

(n=218)

Final Pointers and Reminders

1. Avoid asking for information that is redundant with other data sources which are accurate and easy to access.

2. Make sure that student, faculty, and alumni respondents are sufficiently motivated to respond to questionnaire items.

3. Avoid wording which encourages favorable responses, thus biasing results.

4. Also avoid wording which is ambiguous, cryptic, or loaded with largon.

5. Pre-test all questions. Don't include those which respondents will find ridiculous or trivial.

6. The form should not be too long or too complicated to complete.

7. Completing the form should be an enjoyable or educational experience for the respondent.

8. Results should be announced and utilized to provide feedback to respondents, and provide a sense of closure, that is, their participation made a difference. When students, faculty, and others see actual results from surveys, they are more likely to respond to them in the future.

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